REMARKS

This supplemental response was requested by the examiner in a telephone conference on May 21, 2010. As requested, Applicants have amended claims 67, 73, 74, 255, and 278 to clarify the claim language. In this regard, Applicants note that the claims presented herein are amended relative to the claim amendments entered in the response of March 8, 2010. In addition, Applicants have considered the similarity of certain amino acid sequences for the HPIV2 L protein provided by the examiner and present the results of the assessment below. No new matter is added in this response.

Assessment of Amino Acid Sequences Reported for the HPIV2 L Protein:

During the conference call of May 21st, the examiner expressed concern that other HIPV2 protein sequences (GenBank accession numbers NP_598406.1, CAA40788.1, and BAE00056.1) might not have sufficient homology to the sequences disclosed in the application to warrant the scope of the claims. Applicants contend that any such concerns are misplaced.

The sequences corresponding to the accession numbers above were compared via sequence alignment using the default settings of the SIM program of the Expert Protein Analysis System (ExPASY) – available at http://expasy.org/tools/sim-prot.html. The sequences for accession numbers NP_598406.1 and CAA40788.1 were found to be 100% identical over their entire 2262 amino acid sequences (the results of this alignment are provided on pages 6-9). Similarly, sequences for accession number BAE00056.1 was found to be 99.3% identical to NP_598406.1 and CAA40788.1, with 15 sequence differences in 2264 amino acids (the results of this alignment are provided on pages 10-13; however, because of the identity of NP_598406.1 and CAA40788.1, the alignment only compares NP_598406.1 with BAE00056.1). Nonetheless, the relevant segments of the sequences for accession numbers NP_598406.1, CAA40788.1, and BAE00056.1 are 100% identical to the HIPV2 L protein amino acid sequences shown in figure 1 of the application.

In comparing the HPIV2 L protein sequences, Applicants noticed that the amino acid numbering of the NP_598406.1 and CAA40788.1 sequences differs slightly from that of BAE00056.1 and figure 1. In particular, residues 948 and 1566 of figure 1 are numbered as

residues 946 and 1564, respectively, likely due to the presence of residue insertions in the sequence disclosed in the present application. Therefore, Applicants have amended claims 67, 255, and 278 to clarify the scope of the claims. In this regard, the claims now recite residues of the SEQ ID NOs. that correspond to the relevant sequences of figure 1. Applicants note that the claimed SEQ IN NOs. were submitted for the pending application on May 13, 2004. Support for the amended claims can be found throughout the specification, such as in paragraph [39] and figure 1.

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Sim

Click here to view these alignments graphically with the LALNVIEW program (prime-type characters-wild).

Click here to download LALNVIEW (Unix, Mac and PC versions available).
You can also have a look at a sample screen of LALNVIEW and access its documentation.

Results of SIM with:

Sequence 1 NP-598406.1, (2262 residues)
Sequence 2 CAA40788.1, (2262 residues)

using the parameters:

Comparison matrix: BLOSUM62
Number of alignments computed: 20
Gap open penalty: 12
Gap extension penalty: 4

Evaluate the significance of this protein sequence similarity score using PRSS at EMBnet-CH

```
100.0% identity in 2262 residues overlap; Score: 11757.0; Gap frequency: 0.0%

NP-598406,   1  MAASSEILLPEVHLNSPIVHKLIYTLLLGHFPHDLDISRISPLHHDMRQQIARERSLA
CAA40788.1   1  MAASSEILLPEVHLNSPIVHKLIYTLLLGHFPHDLDISRISPLRHMRMRQQIARERSLA
                ****************************************************  *****

NP-598406,  61  BRLOVAKSELIKEVPAPRATRWESHARVLIWPSCIPFLVKFLPHSKLQVWEQHYKLINAS
CAA40788.1  61  BRLOVAKSELIKEVPAPRATRWRSHARVLIWPSCIPFLVKFLPRSKLQIWEQHYKLINAS
                ***********************  *********************  ***  ********

NP-598406, 121  CNTTSDGIDRCMENISIFLTGKNNLPSRSRGTAGWRNSKITLNDIQSIWESNKNQHRVS
CAA40788.1 121  CNTISDGIDRCMENISIFLTGKNRLPSRSRGTRAGRENSKITLNDIQSIWESNKNQHRVS
                ***  ********************  ********  ***********************

NP-598406, 181  LRLTIRFQMPQLIMHQSSRQFTDLVNIVDTRSGLIVITPELVICFDPLNSVLMYPTPRMT
CAA40788.1 181  LRLTIKFQMPQLIMHQSSRQFTDLVRIVDTKSGLIVITPELVICFDRLNSVLMYPTPRMT
                *****  *****************  *****  **************  ***********

NP-598406, 241  LMVSIMFEXTRMQVTRLCTISHYLSVLQPRIDRLFSTVDRLAQLLQDTVYKVIASLESLVY
CAA40788.1 241  LMVSIMFEYTRMQVTRLCTISHYLSVLQPRIDRLFSTVDRLAQLLQDTVYKVIASLESLVY
                ********  **************************************************
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NP-598406.    361  GCLGLADPVVELEGSPRGFTTQETIDILIGSKRLLFDRSTTVTQLLDIPSMLSFGLIAE
CAA40788.1    361  GCLQLADPVVSLAGSPRSFTTQSTIDILIGSKALSYSRSTTVVTQLLDIRGSNSFDLIAE
                   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

NP-598406     381  MLCLGRLRNGRSTLTAAQVGNVRESGCASKLLDPPTTMKTLSFRNTTLSTGGTRKKKMGMGP
CAA40788.1    362  MLCLMRLMGRPTLTAAQVGSVFRSGMCASKLLDPPTTMARTLSFFNTTILLGNGTPKKKMGMGP
                   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

NP-598406.    421  PLILFSRASKSLISFGMDRAKISYSYTLKSMKEISLISFROCGFTFDPGKELSIFFMDMAI
CAA40788.1    421  PLILFSRASKLISFQMDRAEISYSYTLFKMMKEISLISFRACGFFDPSEELSTPSKDKAI
                   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

NP-598406.    481  SAPRSDWMSVFRRSLIAGRAGPSHIPNPNH-PNKRLLLSFLSDDSFDPVASLRYYTGSEYL
CAA40788.1    481  SRPRSDWNSVFRPALIFQSHQGRNIPRNRPFNSRLLLSFLSDDGFDPVASLRYYTGGEYL
                   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

NP-598406.    541  QDDTFCASYSLKSKSIKFDGRIFAKLTSNMSGCQVIASALLANBAGTLMKSNYVLSQLS
CAA40788.1    541  QDDTFCASYSLAKKSIKFDGRIFAKLTNSMRSGCQVIAKALLAGNAGTLMKSNYVLNQLS
                   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

NP-598406.    661  LTKGLGLTNSQIGIISSRAKFTTGNILSGQGFNTISGGPGFNTIFTLSKMRKGKTASGVLSDPLYTPSL
CAA40788.1    661  LTKSGLLTNSQIGIISSRARFYTPDNISGQGFNTIFTLSKMRKSGKIASSYLTSNGTYSL
                   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

NP-598406.    661  SACFTTTDLAKTCLQNRYQTIIFPARTLSRNYGVFSLPSRIRLRLIRSSLTVGODPFGPSM
CAA40788.1    662  SACFYTTDLAKYCLQNRYQTIIFPARTLSRNYGVPSLPSNIRLSLIRSSLTVGODPFSFPG
                   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

NP-598406.    721  ATDAFDLDKVLRGDIFIVSKSGIESLCYMNTNISISVLILGSASSKTRVRSNVQGSRQA
CAA40788.1    721  ATDAFDLDFVLSGDIFIVSKSGIESLCYNNTNISISVYILGSASRKTRVRSMYQGSRQA
                   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

NP-598406.    781  IAVTTRVPRSLPSTQKKELAYAASKLFFSRLRAMNYGLSHQLFSQSTTISSTFFIYSFPV
CAA40788.1    781  IAVTTRVPRSLPSIQKKELAYAASKLFFSRLRAENYGLSHQLKAQSTIISSTFFIYSRV
                   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

NP-598406.    841  FYQGRILTQALKRASKLCLTADVLSGSCTQASCSNSATTIMRLTSRSVSRDTCVRLMIYQS
CAA40788.1    841  FYQGRILTQALKSASKLCLTADVLSGSCTQASCSNSATTIMRLTSRGSVSRDTCYLRIYQS
                   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

NP-598406.    961  IRQLTYDLIFFQVSIFQSRTISRISIGRSIVLLSPSQLSSLSVLACSRLFNRMHIGDV
CAA40788.1    961  IRQLTYDLIFFQVSIFQGSTISSIFLQNPRLISRISIVLLPSQLSSLSVLACSRLFNRMHGDF
                   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

NP-598406.    961  LGTAVADLFRLIFCGALSSILITNLLARFPSRGSMSTLAADPVSLMQSYLFPPTTILKRH
CAA40788.1    963  LGTAVADLKRLIFCGALSSILMNLLARKFPKSSWSTLAADPVSLRQSYLYPPTTILKRH
                   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

NP-598406.   1021  TQNTLSRICRRPMLKSVPTGSARKSRSLLAKFLLSRDTVLPSVANTITLSQSIGRKKQIQ
CAA40788.1   1021  TQNTLSRICRSFPMLKSVPTGSARKSRSLLAKFLRSRADIVLSPSVANTITLQSSIGRKKQIQ
                   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

NP-598406.   1081  GNFGTTPTIMPASFSIRRSLGTRKTILSVIRYGTNYLSYNYFVILSFLPIPSYLNYITSQTC
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CAA40788.1   1581  GPPDTTETIMHRGSPEIKPLSTKMZLSVIEYNTNTLSYUZPVLRDPLPIPGYLNYITDQTC
                   ********************************************************

NP-598406.   1141  SIDIGRSLPFLSWSSLLNGRTLSSLRTTDPIEVVGFSLIPGTGDCDFCMQGLDKPTWFPL
CAA40788.1   1141  SIDIGRSLRKLENGSLLNGRTLEGIETPGPIEVVNGFLIVGTGDCDFCHGGDDKPTNPPL
                   ********************************************************

NP-598406.   1201  FRGIILDGNPETNPPIRVPYIGGRTRERVASRAYIKGATHSLRAALRGAGVYIRAFGDT
CAA40788.1   1201  SNGIILDGNPETNPPIRVPYIGGRTRERVASRAYIKGATHSLRAALRGAGVYIRAFGDT
                   ********************************************************

NP-598406.   1261  VVHMNHALDIANTRVKISLEQLQTLTFLPTSARITHRLDDGATTLKFTPASSYAFSSYTN
CAA40788.1   1261  VVHMNHALDIANTRVKISLEQLQTLTFLPTSARITHRLDDGATTLKFTPASSYAFSSYTN
                   ********************************************************

NP-598406.   1321  ISEDQQYLRIDQRVVLGUIIYQQLMITGLSIIETYHNPPIPTSTQSITLULATSSSCCVR
CAA40788.1   1321  ISEDQQYLRIDQRVVDERLIYQQLMITGLSIIETYHNPPIPTSTQSITLULATSSSCCVR
                   ********************************************************

NP-598406.   1381  SVDGCLICESNGEVPQITVPYTHTFVYDPIPLADYETARLDYLSYQAKIGSTDFYSLTDR
CAA40788.1   1381  SVDGCLICESNGEVPQITVPYTHTFVYDPIPLADYEIARLDYLSYQAKIGSTDFYSLTDK
                   ********************************************************

NP-598406.   1441  TDLLAHLTAKQMINSTIGLDETVSTVMDAVILSDYTHMNISECSYTKIDLVPKLMANHFL
CAA40788.1   1441  TDLLAHLTAKQMLNSTIGLDETVSTVMDAVILSDYTHMNISECSYTKIDLVPKLMANHFL
                   ********************************************************

NP-598406.   1501  LELAFQNYYLRISSWTYIPDYTYNTLERIPYTALNNIAATIGHPKLRRAMGLDITTPIN
CAA40788.1   1501  LELAFQNYYLRISSWTYIPDYTYNTLERIPGTALNNIAATIGHPKLRRAMGLDITTPIN
                   ********************************************************

NP-598406.   1561  APYLASLDTVKLGIDAIQNGVGQVLRDLSNGIDLEILILSEDSMGTGDRAMNLIARKLTL
CAA40788.1   1561  APYLASLDTVKLGIDAIQNGVGQVLRDLSNGIDLEILILSEDSMGTGDRAMNLIARKLTL
                   ********************************************************

NP-598406.   1621  LALVKGEHTTSPEIKGMYPEEKCLVLIEYLAMCYQMIHRLDPDLQKYLYNLTMHKLTAPE
CAA40788.1   1621  LALVKGEHTTSPEIKGMYPEEKCLVLIEYLAMCYQMIHRLDPDLQKYLYNLTMHKLTAPE
                   ********************************************************

NP-598406.   1681  SNHPVLTRKIIANQIRESUBGQYTITSYYEFFEQLETDIILHGTLTAPYIHNSEMNHKVRPI
CAA40788.1   1681  SNHPVLTRKILNQIRESDRQYLITSYYRSFEQLETDILILSFTLTAPYTLNGFRSNFVRFI
                   ********************************************************

NP-598406.   1741  PFDIFPFPESLEEYPLPVDHHSQSAISTLIPGPPSHNVLRPLQVSSTAWYKGISYCRYLE
CAA40788.1   1741  PFDIFPFPESLEKYPLPVLNDSGSAISTLIPGPPGHRVLEPLQVGSTAWYKGISYCRYLE
                   ********************************************************

NP-598406.   1801  TQKIQTGDRLYLANGSGASMSLLRLLFPGLTVYYNSLPSSGENPPQRNYAFLPTQFYQCV
CAA40788.1   1801  TQKIQTGDRLYLANGSGASMGLLELLFPGDTVYYNSLPSSGENPPQRNYAFLPTQFYQGV
                   ********************************************************

NP-598406.   1861  PYKLMQADLADRDWLTKDPVPLNHGHSAVTDLOTKDRAVAFIHRVGARKASLVHIDLSST
CAA40788.1   1861  PYKLMQADLADDEHLTKDPVPLNHGHSAVTDLSTTDRVAFIHRVGARSPACLVHIDLSST
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                    * * : * * * * * * : * * : * * * * * * * : * * * * * * * : * * * * * * * * * : * * * * * * * * * : * * * * : * * * * * * : * * * * *

NP-598406.   1921  ARINQQTLSRRQIHSLIIATTVLRRGNILIYKTSWLPTSRPSQLAGLLNCPPTRIHLIRS
CAA40788.1   1921  ANINQQTLSRGQIHSLIYATTVLRPGGILIYKTSWLPSPFGQLAGLLNCFFDRIHLIRS
                    * * : * * * * * * : * * * * * : * : * * * * * * : * * * : * * * * * * * * : * * * * : * * * * * * * : * * * *

NP-598406.   1981  SYSDPHSREVYLVCKLAADSPTISPSAALVTATTLNNDGFTTIRPTVVCSTWQHHLENVG
CAA40788.1   1981  SYSDPHSHEVYLVCKLAAEFRTISPSAALVTATTLNDDGFTTIRPDVVCSYWQHHLENVG
                    * * * * * * * * : * * * * * * * * * : * : * * : * * * * * * * * * * * : * * * * * * * : * * * * : * * * * * * * * * *

NP-598406.   2041  KVGKVILETLDGLATNPPASDRGLILRCQSTPGSRFKLETDQLASPDLVQDALVTLITIR
CAA40788.1   2041  EVGKVIDETLDGLATNPFAGDRGLILRCQSTPGSRKVLETDQLASPDLVQDALVTLITIR
                    : * * * * * : * * * * * * * * * : * : * * * * * * * * * * * * * : : * * * * * * * * * * * * * * * * * * * * * * *

NP-598406.   2101  LKELIEVQSSHTEDYTSLLFTPYNIGAAGKVRTIIKLILERSIAYTVRHWLVLPSSIRHS
CAA40788.1   2101  LKETIEVQSSHTEDYTSLLFTPYNIGAAGKVRTIIKLILERSLAYTVRHWLVLPSSIHDS
                    * * * : * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * : * * * * * * * * * * * * * * * * : *

NP-598406.   2161  VRQDLELGSFRLWSILSEQTFLKKTFTNKYLLDQLTRIYISTFPRSHSVLPLHRPYVKQI
CAA40788.1   2161  VRQDLELGSFRLMSILSEQTFLKKTPTKKYLLDQLTPTYISTFPRSHSVLPLHRPYQKQI
                    * * * * * * * * * * : * * * * * * * * * * * * : * * * * * * * * * * : * * * * * * * * * * * * * * * * * * * * : * *

NP-598406.   2221  WKALGSVIVCSETVDIPLIKDIQIRETHDFEDIERGIDGEEL
CAA40788.1   2221  WKALGSVIVCSRTVDIPLIFDIQIRDIHDFEDIERGIDGEEL
                    * * * * * * * * * * * * : * * * * * * * : * * * * : * * * * * * * * * * * * * *
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DOCKET NO.: NIHB-2203   **PATENT**
Application No.: 10/667,141
Office Action Dated: Supplemental Response to Office Action of December 8, 2010

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Sim

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Click here to download LALNVIEW (Unix, Mac and PC versions available)
You can also have a look at a sample screen of LALNVIEW and access its documentation

Results of SIM with:

Sequence 1: NP-598406.1, (2262 residues)
Sequence 2: BAB00056.1, (2283 residues)

using the parameters:

Comparison matrix: BLOSUM62
Number of alignments computed: 20
Gap open penalty: 12
Gap extension penalty: 4

Evaluate the significance of this protein sequence similarity score using PRSS at EMBnet·CH

99.3% identity in 2364 residues overlap; Score: 11637.0; Gap frequency: 0.1%

```
NP-598406.     1 MEAGSEILLPEVHLNSPIVEHKLIYYLLLGHFPHDLDISETSPLHNNDWDQIARPESNLA
BAB00056.1     1 MEAGSEILLPEVHLNSPIVEHKLIYYLLLGHFPHDLDISETSPLHNNDWDQIARPESNLA
                 ********* ****** ***********  ***************************** *

NP-598406.    61 ERLGVAKSSLIKEVPAPRATEMRSHAAVLINPSCIPFLVKFLPHSKLQPVEQNYKLINAS
BAB00056.1    61 ERLGVAKSELIKEVPAPRATEMRSHAAVLIKPSCIPFLVKFLPHSKLQPVEQNYKLINAS
                 ******** ****************** ** *****************************

NP-598406.   121 CMTISDSIDRCMENISIKLTGPYNNLPSRSRGDTAGWGENGRITLHGIQSIWESNKMQRNVS
BAB00056.1   121 CMTISDSIDRCMENISIKLTGPYNNLPSRSRGDTAGWGENGRITLHGIQSIWESNKMQRNVS
                 **********************************************************

NP-598406.   181 LMLTIKYGMEQLIMHQGSRQPTDLHHIVDTRSCLIVITPHLVTCPFDRLNSVLMYFTPEMT
BAB00056.1   181 LMLTIKYGMEQLIMHQGSRQPTDLHHIVDTRSCLIVITPHLVTCPFDRLNSVLMYFTPEMT
                 ** ***************************** ** ***********************

NP-598406.   241 LNVSIMPSGRMNIVTALCTISHYLSPLGPRIDFLPSIVDELAQLLODTVYKVIAFLESLVY
BAB00056.1   241 LNVSIMPSGRMNIVTALCTISHYLSPLGPRIDFLPSIVDELAQLLODTVYKVIAFLESLVY
                 ** ***************************************************** ** *
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```
NP-598406.   301  GQLQLKDPVVELASSPSCFITGRIIDILIGGKALDYDRSITVTTQLLDIFSMLSPGLIAE
BAB00056.1   301  GVLQLKDPVVELAGSPSGFITGRIIRILIGNKALDKLEGTTVTTQLLSIFSMLSPGLIAE
                  *************************************************************

NP-598406.   361  MLCLMRLMGHFTLTKAGV-GKVREGMCAGRLLDFPTIMKTLAFFWTILINGYRKKEGMM
BAB00056.1   361  MLCLMRLMGHFTLTRAQAAGKVPEGMCAGRLLDFPTIMKTLAFFWTILINGYRGPKEGMMM
                  ***************** *************************************** *** *

NP-598406.   420  FPLILFKDVAGKGLIEFQHDVAEISIFYTLKHWKEISLIEPRKTDPDSVGEELSIFWKDKA
BAB00056.1   421  FPLILFKEASKGLISFQHDVAEISIFYTLKHWKEISLIEPRKCPDFDFGEELSIFWKDKA
                  *******   ****  ***********************   *  *  *************

NP-598406.   460  ISAPRSDWMSVFRRSLIFQRKQRREIFMPNPPFNRRLLLNFLEDDSPDFVAELRYVTGSEY
BAB00056.1   481  ISAFRSDWMGVFRRSLIKQPHQREHIFMPNPPFNRRLLLNFLEDDSFDFVAELQYVTSGHY
                  ****  *** ******* ** **  *  *************** ******** **  * **

NP-598406.   540  LQDDTFCASYSLEEKETEPTAGRIPAKLTHRMESCQVIREAILAERAGTLMKENGVVLNQL
BAB00056.1   541  LQDDTFCASYSLEEKETPDGRIEAKLTRGMRSCQVIAEAILANGAGTLMERENGVVLNQL
                  *****************    ** **** * *****  **** ***** *  *********

NP-598406.   600  SLTESLLTNDQIGIIDRKAFRYTRDWIGSCQGFHTIKTDSFHGRKGFTACSYLTDPDTPE
BAB00056.1   601  SLTKSLLTMSGIGIIDSEAKRFTRDHIGSCQGFHTIKTDGHGNKHGFTASSYLTDPDDTPE
                  *** **** * *****   * * **** *********** * *   *** ***** ** **

NP-598406.   660  LSACFITTDLAKYCLQWHYQTIIHPARTLRRMYGVPHLFEWIRLRLIRSTLYVGDF-PRPF
BAB00056.1   661  LSACFITTDLAMYCLQWRMQTTIHPARTLRRMYGVPHLFEWIRLRLTESTLNVGDFFMPF
                  *** ******* ***** **  *  *************************   ***  *  *

NP-598406.   720  AATDAFDLQKVLMGDIFIVE-RGGIEHLCQKNWTMISISVIILSSAESNTRVMGMVQHLN
BAB00056.1   721  AATDAFDLQKVLMFDIPIVGPYGGIEGLCQKNWTMISISVIILSSAESKTKVMGMVQGDH
                  *********** * **  *   **** **********************  * ****** *

NP-598406.   775  QAIAVTRVFRSLPSIQKKELAYAASVLFFPRLRAANHYGLGHQLKAQETIISGTPFIYGK
BAB00056.1   781  QAIAVTRVFRSLPSIQKKELAYARSKLFFPRLRAMHYGLGHQLKAQHTIISGTPFITGK
                  ************************   ********  **********  ********* **

NP-598406.   839  RVFYQGRILTQALKMASKLCLTAGVLGECTQASCSNGRTTIMRLTSKGVEKDTCYKLNTY
BAB00056.1   841  RVFYQGRILTQALKMASKLCLTAGVLGECTQASCSNGATTIMPLTSKGVGKDTCYIYLRIY
                  ****************************************** *****  ****** * **

NP-598406.   899  QSTRQLTYDLIFFQYSIFGETLSKIFLQMPRLISRIVLLPSQLGQLMYLACSRLFMERIG
BAB00056.1   901  QSIRQLTYDLIFFQYSIFGKTTSRIFLQMPRLISRIVLLPSQLGQLMYLACSRLFMERIG
                  ** ****************  * *************************************

NP-598406.   959  DPLGTAVADLKPLIKCGALRSWILFMRLLARRAPGEGKSMATLAADFPYSLNQKYLYPPTFILK
BAB00056.1   961  DPLGTAVADLKRLIKCGALRSWILFMRLLARKPRGSKMATLAADFPYSLNQKYLYPPTFILK
                  *********** ****************** *   *  **********************

NP-598406.   1019 RHTQNTLAEICRMPMLFGVFFTGMAKEEENLLAKPLLEDIVLPRVAHIIIDGSSIGRKKQ
BAB00056.1   1021 RHTQNTLAEICRMFMLKGVFTGMAKESRLLAKFLLDRDIVLPRVAHIIIDGSSIGRMYQ
                  *************** * * **********   *** * **  *****************

NP-598406.   1079 IQGFFDTTRTIMRGFFSIKFLSTRKTLSGIEYDFTNYLSYNYPVVILMFLPIFGYLMVITSQ
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DOCKET NO.: NHB-2203   PATENT
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Office Action Dated: Supplemental Response to Office Action of December 8, 2010

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BAE00056.1   1081  IQGFFDTTTXTIMPPSPSIPPLSTKETLSVIEYNTRYLSYGYPVILSFLPIPGYLSYITTQ
                   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

NP-598406.   1139  TCSIDISESLRKLSWSSLLRGRTLEGLETPDPTEVVRGFLIVSTGDCDFCRQSGDGFTWF
BAE00056.1   1141  TCSIDISRSLRKLSWSSLLRGRTLRGLETPDPTEVVRGFLIVGTGDCDFCRQGDGKFTWF
                   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

NP-598406.   1199  SLPKGITIDGNPETHPYIPVPYIGSRTEERRVASMAYIKGATHSLKRALRGAGVYIMAPQ
BAE00056.1   1201  SLPKGITIDGNPRTHPYIPVPYIGSRTEERRVASMAYYKGATYGLRAALRGAGVYIMAPQ
                   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

NP-598406.   1259  IVTVVRNMDALDILEHTRVKISLEQLQTLTTLPTERNITHRLLDGKTTLKFFPAGGYAPSSY
BAE00056.1   1261  DTVVVRNMDALDIRHTPVKISLEQLQTLTTLPTSANITHRLLDGATILKPTPAGGYAPSSY
                   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

NP-598406.   1319  TNISNDQQYLEIDQRVVDSNIIYQQLMITGLGIIETYHFFIRTSTQEITLMLHTSSGCC
BAE00056.1   1321  TNISNDQQYLEIDQRVVDSNIIYQQLMITGLGIIETYHNFFIRTSTQEITLMLRTSSGCC
                   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

NP-598406.   1379  VRSVDGCLICESUGRVPQITVPYTNTFVVDPDPLADYEIAHLDYLSYQAKIGSTDYYSLT
BAE00056.1   1381  VRSVDGCLICESRGKVPQITVPYTNTFVVDPDPLADVEIAHLDYLSYQAKIGSTEYYSLT
                   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

NP-598406.   1439  DKIPLLASLTARQMINSLIGLDETVSIVRDAVILSDYTRNGVISBCSYTKIDLVPRLMANN
BAE00056.1   1441  DKIPLLARLTRKQMINSLIGLDETVSIVHDAVILSDYTRNFVISRGSYTKIDLVPRLMANN
                   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

NP-598406.   1495  PLLELAFQMYYLRISSWTNIPDYTYMTLRRTPGTALBNTAATISHPYLLRFANRLDIITP
BAE00056.1   1501  PLLELAFQMYYLRISSWTNIPDYTYMTLRRTPGTALBNTAATISHPYLLRFANRNLDIITP
                   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

NP-598406.   1559  IHAPYLASLDYVKLSIDAIQWGYKQVLAGLSNGIDLEILILSEDSNEISDRAMNLIYARKL
BAE00056.1   1561  IHAPYLASLDYVKLSIDAIQWCVKQVLAGLSNGIDLEILILSEDSNEISDRAMNLIARKL
                   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

NP-598406.   1619  TLLALVKGENYTPFKIGMPPERKCLVLTEYLAMCYQHTGHLDPDLQKYLYNLTNPFLTA
BAE00056.1   1621  TLLALVKGENYTPFKIGMPPERKCLVLTEYLAMCYQNTHHLDFDLQKYLYNLTNPFLTA
                   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

NP-598406.   1675  FPSNNPYLTPKILRQIRESDRGQYIITSYYESPEQLETDIILHSTLYAPYDNSRSNKVR
BAE00056.1   1681  FPSNHPYLTRKILRQIRESDRGQYIITSYYESPEQLETDILLSSTLTAYYDNSETLTNPD
                   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *     *

NP-598406.   1739  YIFFDIFPRPESLEKYPLPVDNDGQSAISTLIPGPPSNRVLRFLGVSSTAMYKGISYCRY
BAE00056.1   1741  .GLDIFPRPESLEKYPLPVDNDGQSAISTLIPGPPSNRVLRFLGVSSTAWYKGISYCRY
                   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

NP-598406.   1799  LETQNIQTGTDHLYLEGSGRSRSLLELLFPGPTVYTHSLFSSGENPPQRRYAPLETDFVQ
BAE00056.1   1800  LETQKIQTGTDHLYLARTGGASNRLLELLFPGPTVYTNSLPSSGEHPPQRRYAPLPTFVQ
                   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

NP-598406.   1859  SVPYKLWQADLADDSHLIKDPVPLMNGNGRVTDLSTKDAVAPLIHVVGAEKASLVRIDLE
BAE00056.1   1860  SVP/KLWQADLADDSNLIYDPVPLMRGNGAVTDLQTKDAVAPLIHKVGREKASLVRIDLE
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NP-598406.   1919  STARINKQTLSRSQIHGLIIATTVLKPGGILIVKTSWLPSPFFQLAGLLNCFFDKIHLI
BAB00056.1   1920  STANIKQGILSRSQIHSLIINTTVLKRGGILIYKTSWLFSRPSQLASLLNCFFDPIHLI
                  *******************************************************************

NP-598406.   1979  RSSYSDFRSHEVVLVCRLAADFRTTGFSAALVTATTLRNEGPTTIHPDVVCSYWQHHLEN
BAB00056.1   1980  RSSYSLFHGHKVVLVCRLAADFRTIGFSAALVTATTLRNDGPTTIHPDVVCSYWQHHLRN
                  *****************************************************************

NP-598406.   2039  VGRVGKVIDEILDGLATHFFAGDNGLILRCGGTPGSRKALEIDQLASFDLVQDALVTLIT
BAB00056.1   2040  VGRVGKVIDEILDGLATHFFAGDNGLILRCGGTPGSRKKLEIDQLRSFDLVQLALVTLIT
                  ********************************************************************

NP-598406.   2099  IHLKELIEVQSSHTEDYTSLLPTPYNIGAAGKVKTIIKLILERSLMYTVRMMWLVLPSSIR
BAB00056.1   2100  IHLKRITEVQSSHTEDYTSLLPTPYNIGAAGKVKTIIFLILERSLMYTVRMWLVLPSSIR
                  ******************************************************************

NP-598406.   2159  DSVFQDLELQSFRLMAILSEQTFLKKTPTFKVLLDQLTTVVISTFFNSHSVLFLHRPYQK
BAB00056.1   2160  DSVRQDLELQSFRLMSILSEQTFLKKTPIKKYLLDQLTRTVISTFFNSHSVLFLHRPYQK
                  ******************************************************************

NP-598406.   2219  QIWKALGSVIYCSETVDIPLIKDIQIRGIHDFEDIERSIDGEEL
BAB00056.1   2220  QIWKALGSVIYCSETVDIPLIKDIQIRDIHDFEDIERGIDGEEL
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Supplemental Response at Examiner's Request

Applicants note that this response is being made at the request of the examiner; therefore, no reduction in any patent term extension due to Applicants should occur based on this response (see 37 CFR 1.704(c)(8)).

Date: June 7, 2010   _____/Sean C. Brock/_____
                                                 Sean C. Brock
                                                 Registration No. 66,382

Woodcock Washburn LLP
Cira Centre
2929 Arch Street, 12th Floor
Philadelphia, PA 19104-2891
Telephone: (215) 568-3100
Facsimile: (215) 568-3439